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EXAMINER

DAZENSKI, MARC A

ART UNIT	PAPER NUMBER
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2481

NOTIFICATION DATE	DELIVERY MODE
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ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary	Application No. 10/572,873	Applicant(s) IKEDA ET AL.	
	Examiner MARC DAZENSKI	Art Unit 2481	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 16 November 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 15, 16, 18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 15, 16 and 18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 March 2006 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>10-18-10, 11-17-10, 1-14-11</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Response to Arguments

Applicant's arguments filed 16 November 2010 have been fully considered but they are not persuasive.

On page 7 of the remarks, Applicant argues "...the Tsumagari reference fails to disclose or suggest cache management information which shows, of files that compose applications, which file is to be read to a cache before audio-visual playback of the title corresponding to the second operation mode object when said title becomes a current title." Also, on page 7, Applicant points to paragraphs [0065] - [0067] in forming their arguments, stating "Considering such constructions, if the file information in the ENAV playback information corresponds to the cache management information, then a file referred to by the file information of the ENAV playback information must be the script language of the ENAV playback information" and therefore (continued on page 8), "...since it is not possible to construe that the file information of the ENAV playback information is information for reading out a script language of the ENAV playback information." The examiner respectfully disagrees.

First, the examiner notes that Applicant's assertion that "if the file information in the ENAV playback information corresponds to the cache management information, then a file referred to by the file information of the ENAV playback information must be the script language of the ENAV playback information" is not necessarily true: the file "referred to" by the file information may be, for example, ENAV contents 30 (e.g., the AV

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data itself) since this is still *indirectly* referred to by the file information of the ENAV playback information disclosed in paragraph [0067]. Second, the phrase “cache management information” is not so limiting that it precludes the construction suggested by the Applicant so long as it shows “when said title becomes a current title.” The examiner notes that a careful reading of the claim reveals that the only criteria of the claimed “cache management information” is that it show “which file is to be read to a cache before audio-visual playback of the title corresponding to the second operation mode object when said title becomes a current title,” which Tsumagari clearly discloses (see, e.g., paragraph [0067]: “...synchronization information (information used to control to play back the DVD Video contents in connection or combination with that of the ENAV contents at a predetermined timing), and duration information (information indicating the display time range or timing range of the ENAV contents),” wherein this information shows, via the “predetermined timing” and “duration information,” when titles become a current title and the order in which those titles are displayed, and thus, “which file is to be read to a cache...when said title becomes a current tile”). Third, in response to Applicant’s assertion that Tsumagari fails to disclose the claimed limitations “...since it is not possible to construe that the file information of the ENAV playback information is information for reading out a script language of the ENAV playback information,” the Examiner notes that it is unclear as to which limitation claim 15 is referring, as the claim merely requires that the only criteria of the claimed “cache management information” is that it show “which file is to be read to a cache before audio-visual playback of the title corresponding to the second operation mode object when said title becomes a current

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title.” This has already been demonstrated to be taught by Tsumagari, and therefore the examiner maintains the previous rejection.

On page 8 of the remarks, Applicant argues, “...the file referred to by the file information of the ENAV playback information is nothing but merely a file storing therein data of menu, video and/or audio. The file information taught by Tsumagari is included in the ENAV playback information with the script language which is a Java script. Accordingly, the file information of Tsumagari does not describe or teach the management information as particularly recited in each of independent claims 15, 16, and 18.” The examiner respectfully disagrees, and notes

1.) it is unclear as to which aspect of the independent claims the applicant is referring or how Tsumagari fails to read on this limitation since nothing in Applicant's arguments precludes the situation in which "the file referred to by the file information of the ENAV playback information is nothing but merely a file storing therein data of menu, video and/or audio," or "the file information taught by Tsumagari is included in the ENAV playback information with the script language which is a Java script;" as well as,

2.) Applicant's citation of paragraph [0068] is presumably due to the recitation that "Using the ENAV playback information...output methods...can be described" supposedly shows that these are not "files that compose applications." However, the term "application" in and of itself is not limiting, and can be broadly interpreted to mean "mixed audio/video playback" or even "interactive menu" applications (such as those portrayed in the figures cited in [0068], e.g., 2-3, 7-8, and 11-12). Therefore, the

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examiner maintains the previously cited sections of Tsumagari do in fact read on the claim.

On pages 8-9 of the remarks, Applicant argues, "...the script corresponding to the application and the file information corresponding to the cache management information are integrated according to Tsumagari...the loading of the application (i.e., script of ENAV playback information) is not accelerated due to the fact that the script corresponding to the application and the file information corresponding to the cache management information are integrated." The examiner notes that nowhere in any of the claims is there language that says the script and the file information may not be integrated, so this argument is completely moot. Further, paragraph [0073] states that by preloading an ENAV playback control method, "a process of the ENAV contents data body can be started without any delay..." How much faster than "without any delay" does the loading of the application need to be in order to be considered "accelerated?" Thus, Tsumagari discloses preloading of an application into a cache before audio-visual playback. Although this has already been shown to be true by the examiner, the point is moot since this is not even claimed (as explained above). Applicant further argues, "...it is submitted that the reading and storing of the ENAV playback control method in a memory in advance as described in paragraph [0073] of Tsumagari fails to teach reading of an application using cache management information as specifically recited in claims 15, 16 and 18 as summarized below" in the table on page 9. However the examiner has already shown, with regards to the arguments on pages 7-8 above, how the disputed sections of Tsumagari read on the claims (especially with regard to the

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assertion that "thus it is impossible to construe that file information in the ENAV playback information is information for reading out a script language of ENAV playback information") and the arguments are not repeated again.

On page 9 of the remarks, Applicant argues that Tsumagari "...fails to disclose that when any of the titles on the recording medium become a current title, file that composes an application is read to a cache before A/V playback of the title" and then cites numerous figures and paragraphs to show how "the specific operation during title switching of Tsumagari" proves this. The examiner notes that Applicant's entire argument is predicated on the assumption that Tsumagari fails to disclose "cache management information which shows, of files that compose applications, which file is to be read to a cache, as recited in the claims" (see page 10). The examiner also notes that this argument is moot since

1.) the previously cited section of Tsumagari has already been shown to teach the cache management information, and

2.) none of the sections of Tsumagari cited by Applicant (i.e., [0172], [0175], [0113] or figure 10) provide any teaching that contradicts the sections of Tsumagari cited by the examiner, especially since the claim as written merely requires that the only criteria of the claimed "cache management information" is that it show "which file is to be read to a cache before audio-visual playback of the title corresponding to the second operation mode object when said title becomes a current title."

In addition to these features being taught by Tsumagari, the examiner notes that the secondary reference incorporated to teach the newly added limitations (i.e., the

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Java archive file and class file) teaches the claimed “cache management file” as well (see the cited sections of Peng in the rejection of claim 15, below).

On page 10 of the remarks, Applicant argues “...it is submitted that the other prior art references of record in this application fail to cure the aforementioned shortcomings of the Tsumagari reference.” Applicant's arguments are moot, however, in view of the new grounds of rejection for the newly added limitations (see the rejection under Peng to claim 15 below).

A full rejection of the pending claims appears below.

Claim Rejections - 35 USC § 101

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

The USPTO “Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility” (Official Gazette notice of 22 November 2005), Annex IV, reads as follows:

In contrast, a claimed computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory. See Lowry, 32 F.3d at 1583-84, 32 USPQ2d at 1035.

Claims that recite nothing but the physical characteristics of a form of energy, such as a frequency, voltage, or the strength of a magnetic field, define energy or magnetism, per se, and as such are nonstatutory natural phenomena. O'Reilly, 56 U.S. (15 How.) at 112-14. Moreover, it does not appear that a claim reciting a signal encoded with functional descriptive material falls within any of the categories of patentable subject matter set forth in Sec. 101.

... a signal does not fall within one of the four statutory classes of Sec. 101.

... signal claims are ineligible for patent protection because they do not fall within any of the four statutory classes of Sec. 101.

Claim 15 is rejected under 35 U.S.C. 101 because the claimed invention is directed to non-statutory subject matter.

Regarding **claim 15**, line 1 discloses a “computer readable recording medium.” Both said claim and the respective specification (see, e.g., page 90, specifically paragraph “A”) fail to disclose whether said “computer readable medium” is limited to a non-transitory medium or transitory propagating signal. Although the specification discloses numerous statutory media such as an optical disc, optical-magnetic disk, and a built-in hard disk, the examiner notes that nowhere does it state that the claimed “computer readable recording medium” is limited to the listed statutory media. Reading said claim under the broadest reasonable interpretation “computer readable recording medium” is considered to read on a transitory propagating signal. See the Subject Matter Eligibility of Computer Readable Media memo dated February, 23 2010 (1351 OG 212). A claim directed to only signals per se is not a process, machine, manufacture, or composition of matter and therefore is not directed to statutory subject matter. See MPEP § 2106. Thus, both said claim and said specification fail to define said “computer readable recording medium” to be statutory media.

Claim 16 is rejected under 35 U.S.C. 101.

Regarding **claim 16**, the specification discloses a playback apparatus comprising a module manager and a module (see page 34, lines 7-25: “Fig. 18 shows, in the layer structure, the hardware and the software stored in the ROM 24...The logical hardware layer; and thereon, two layers that are: ...presentation engine 31...a playback control engine 32...On the top layer is: ...a module manager 34...On a same layer between a

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HDMV module 33 and a module manager 34 are...BD-J module 35...composed of an application manager 36...). As evidenced by the specification it appears that said claimed system is capable of reading on software and as such does not fall into any statutory class of invention (wherein the claimed “a module manager” and “a module operable to execute the application” are disclosed on page 34 as residing on non-hardware layers and/or being comprised of a Java platform, which is merely software). Although the specification discloses ROM 24 storing the hardware and software (see e.g. page 34, lines 7-8) the examiner notes that recitation of hardware memory alone does not limit the claimed “module manager” and “a module” to purely hardware embodiments and that therefore the claimed “module manager” and “module” of **claim 16** may be reasonably interpreted to comprise purely software embodiments (especially since the previously cited sections of page 34 as well as page 94, paragraph "K" disclose that these two modules do or may reside on software layers of the apparatus).

Computer programs claimed as computer listings per se, i.e., the descriptions or expressions of the programs, are not physical “things.” They are neither computer components nor statutory processes, as they are not “acts” being performed. Such claimed computer programs do not define any structural and functional interrelationships between the computer program and other claimed elements of a computer which permit the computer program’s functionality to be realized. See Lowry, 32 F.3d at 1583-84, 32 USPQ2d at 1035.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 15-16 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tsumagari et al (US PgPub 2003/0161615), hereinafter referred to as Tsumagari, in view of "Digital Television Application Manager" (NPL Document, authors C. Peng and P. Vuorimaa), hereinafter referred to as Peng.

Regarding **claim 15**, Tsumagari discloses a computer-readable recording medium storing thereon an index table and a plurality of operation mode objects (see [0058]: "...DVD video disc 1...DVD Video contents 10...with the same data structure as the convention DVD Video standard...Also, enhanced navigation (to be abbreviated as ENAV thereafter) contents 30, which allow diversified playback of video contents (or AV contents) 10..."; see [0062]: "The DVD Video are records mangement information called video manager VMG and one or more video contents (or AV contents) called video title sets VTS...VMG is management information...and contains control data VMGI...Each VTS contains control data VTSI of that VTS..."; see [0064] – [0065]: "ENAV contents...30 in Fig. 30 are prepared as a mechanism that allows the user to play back the contents (movie or music) of each VTS by a method different from VMG/VTSI prepared by the provider, and to play back while adding contents different from VMG/VTSI prepared by the provider...Logically, ENAV contents 30 can be classified into ENAV playback information, and the data body of ENAV contents. The data body of

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ENAV contents contains audio data, still image data, text data, moving image data, and the like. The ENAV playback information contains a markup language, script language or the like, which describes playback methods (display method, playback order, playback switch sequence, selection of data to be played back and the like)..."); wherein

the index table shows a plurality of titles in correspondence with the plurality of operation mode objects, at least one of the operation mode objects being a first operation mode object that is for use in a movie mode, and at least another one of the operation mode objects being a second operation mode object that is for use in a virtual machine (see [0064] – [0065]: ““ENAV contents...30 in Fig. 30 are prepared as a mechanism that allows the user to play back the contents (movie or music) of each VTS by a method different from VMG/VTSI prepared by the provider, and to play back while adding contents different from VMG/VTSI prepared by the provider...Logically, ENAV contents 30 can be classified into ENAV playback information, and the data body of ENAV contents. The data body of ENAV contents contains audio data, still image data, text data, moving image data, and the like. The ENAV playback information contains a markup language, script language or the like, which describes playback methods (display method, playback order, playback switch sequence, selection of data to be played back and the like)..."; see [0066]: "For example, as language used as the playback control information, markup languages such as...Javascript, and the like, and so forth can used in combination. The description contents of the ENAV playback information described in these languages are parsed by ENAV interpreter 330 in Fig. 1 to interpret parsed contents.");

the first operation mode object includes a navigation command that shows a control procedure (see [0063]: “A playback select menu or the like of each title (VTS#1 to VTS#n) is given in advance by a provider...and playback control information (program chain information PGCI) in VTSL.”),

the second operation mode object includes cache management information (see [0067]: “...the ENAV playback information can contain file information of the ENAV contents (information of a file to be referred to, and information of a file to be referred to instead if the file to be referred to is not present...)...synchronization information (information used to control to play back the DVD Video contents in connection or combination with that of the ENAV contents at a predetermined timing and duration information (information indicating the display time range or timing range of the ENAV contents).”; see also [0073]: “...(if an ENAV playback control method is read and stored in a memory in advance, a process of the ENAV contents data body can be started without any delay when the ENAV contents data body is read).”), and,

the cache management information shows, of files that compose applications, which file is to be read to a cache before audio-visual playback of the title corresponding to the second operation mode object when said title becomes a current title (see [0067]: “...the ENAV playback information can contain file information of the ENAV contents (information of a file to be referred to, and information of a file to be referred to instead if the file to be referred to is not present...)...synchronization information (information used to control to play back the DVD Video contents in connection or combination with

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that of the ENAV contents at a predetermined timing and duration information (information indicating the display time range or timing range of the ENAV contents).

However, Tsumagari fails to disclose the file to be read into the cache as shown by the cache management information is a Java archive file which includes a class file with regard to an Xlet program. The examiner maintains it was well known to include the missing limitations, as taught by Peng.

In a similar field of endeavor, Peng discloses the file to be read into the cache as shown by the cache management information is a Java archive file which includes a class file with regard to an Xlet program (see page 104, Section 1: "The DVD-MHP defines an application as a functional implementation of an interactive service...Each application has a lifecycle (i.e., the sequence of steps by which an application is initialized, undergoes various state changes, and is eventually destroyed) [4]. Such DVB-Java applications are called *Xlet* applications...The application manager defines an application lifecycle model and a communication protocol between *Xlet* and the application manager...A DVB-Java application (i.e. *Xlet*) is actually a set of Java classes that operate together and need to be signaled as a single instance to the application manager so that it can control its state changes...All the information of downloadable applications is stored in an AIT table, which is multiplexed and transmitted together with other elementary streams in MPEG-2 transport stream..."; see page 105, Section 3.1 and figure 2, particularly the Application Lifecycle Model showing the "load application" and "initialize" states of an *Xlet*; see also page 106, Section 4.2: "The application manager consists of some functions as well as the functions contained

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in the *XletContext* methods. One of these functions includes caching the applications information...When the application manager receives the viewer's request to start the application during watching the program, it creates the data in the above table (the first entry). This procedure includes decoding transport stream to get application information (e.g., location of classes, etc.) from the AIT and save them in the system configuration file.”).

Therefore, it would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the medium of Tsumagari to include the teachings of Peng, for the purpose of efficiently utilizing the limited resources of set-top box (see Peng, page 104, "Abstract").

Regarding **claim 16**, Tsumagari discloses a playback apparatus that performs playback of a title recorded on a recording medium, and execution of an application (see [0058]: "...DVD Video player 100...DVD Video contents 10...Also, enhanced navigation (to be abbreviated ENAV hereinafter) contents 30, which allow diversified playback of video contents (or AV contents) 10..."; see also figure 1 particularly DVD Video Playback Engine 200 as well as ENAV Engine 300), the playback apparatus comprising:

a module manager operable to select, based on an index table, a title to become a current title from among a plurality of titles (see [0088]: "DVD Video player 100 in Fig. 1 comprises DVD Video playback engine 200 for playing back and processing the MPEG2 program stream...and ENAV engine 300 for playback and processing ENAV contents 30 (and/or 30W)."); and

a module operable to execute the application (see [0088]: "DVD Video player 100 in Fig. 1 comprises DVD Video playback engine 200 for playing back and processing the MPEG2 program stream...and ENAV engine 300 for playback and processing ENAV contents 30 (and/or 30W).")...and,

the module, when a selection of the current title is made, reads to the cache the file shown in the cache management information in the operation mode object corresponding to the current title, before audio-visual playback of said title commences (see [0073]: "...the DVD Video player...reads the ENAV playback information prior to the ENAV contents data body (if an ENAV playback control method is read and stored in a memory in advance, a process of the ENAV contents data body can be started without any delay when the ENAV contents data body is read).").

The examiner notes that the remaining limitations of the claim (i.e., lines 7-20, or "the recording medium stores thereon..." through "...which includes a class file with regard to an Xlet program...") are merely the corresponding recording medium to the recording medium of claim 15 and are therefore rejected in view of the explanation set forth in claim 15 above.

Regarding **claim 18**, the examiner maintains that the claim is merely the corresponding method to the apparatus of claim 16, and therefore the claim is rejected in view of the explanation set forth in claim 16 above.

Conclusion

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to MARC DAZENSKI whose telephone number is (571) 270-5577. The examiner can normally be reached on M-F, 9am-5pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Peter-Anthony Pappas can be reached on (571) 272-7646. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/MARC DAZENSKI/
Examiner, Art Unit 2481

/Peter-Anthony Pappas/
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